Honey Industry.

231 The only other product of economic consequence is the celebrated
263 Du'an honey. Honey from Jerdan has an even greater local renown
438 but is not produced in such quantities. At places like Tarim it is not considered possible to grow honey owing to the depradations
[134] of the Blue-cheeked Bee eater (*Merops persicus persicus*), one of the most common, as well as most beautiful, birds in the Hadhramaut. We did not observe this bird at all in the Wadi Du'an, where it is shot on sight.

● 231 The hives are tunnel-like structures fitted into the walls of the
263 houses, and consist of circular sections about a foot in diameter. In the outside wall is a small hole through which the bees enter and leave the hives. Du'an enjoys two honey crops in a year; that of June, July and August being regarded as the best, for in it the bees collect the honey from the blossoms of the *'elb* trees. The honey obtained during the second crop, from November to March, is gathered from a small bush called *Qarmala*, and while it is
[843] highly esteemed it is considered very heating and may not be eaten by pregnant women. If there is much rain during April and May, the bees make a black honey called *helb*, and they are said to grow much stronger, for they consume this honey themselves. The swarming of the bees was thus described by a bee-keeper: A second queen bee, whom they call *āb* or father, sometimes leaves the hive and goes a short distance away followed by some of the others.' The bee-owner takes a mat and rolls it up in the shape of a hive, closing one end, and sprinkling inside a perfume of the perfumes used by the ladies. Approaching the swarm, he gently takes the queen in his fingers out of it and puts her into a small cage made for the purpose. The cage is then put inside the rolled mat. An assistant beats a tin or copper tray and the bees leave the place where they have swarmed and come to the queen. The swarm is now carried to a hive, the queen bee and her cage put into the hive, and in go the bees after her.

The bees collect the crop in 12 to 20 days, and when the owner sees the hive is full he fits on more sections until they have finished. Thirty to 40 pounds of honey are collected from a single hive at each crop. The honey is gathered by smoking the bees out from behind. When they have left, the exit hole is stopped up and the honey is taken, one section being left for the bees. In times of drought, honey is put into the hives for the bees to eat. The honey
251 is packed in comb and as liquid. In the former case two sizes of round tins are used, containing 4 lb. and 7 lb. respectively. An inside cover is soldered to the tins in Mukalla. Liquid honey is packed in cases of two kerosene tins. The value of the honey
435 in Mukalla is one rupee a pound. The total production is 90,000 to 100,000 pounds.

000 In view of the great renown which Du'an honey enjoys in South Arabia and the East Indies, and in view of the fact that it is much appreciated by Europeans, I had hoped that there might be

1:Ingrams G-5 (1934-35)1936 MM2 Hadhramaut MM2

000 product of the " honeydew " type,[1] which would account for its unusual taste and odour.

Commercial Value.—The honey was submitted to two firms of merchants in London who reported respectively as follows :—

(1) " We thank you for your letter and sample of honey, which we have examined. Although the body is quite good, we think you will agree that it leaves much to be desired with regard to flavour.

" At the moment England is so well served with honey of agreeable flavour that it seems doubtful if this honey could be imported to any material benefit. We can buy Jamaica honey, which is good both in colour and flavour, at 26s. per cwt. landed London, so you will appreciate that the value of the present honey would have to be decidedly below this figure. We think you will be well advised to inform your friend that there is little likelihood of an opening on the London market."

(2) " This honey appears to be of a good flavour, but at the present moment there is such a large stock of honey available of all kinds that it would be difficult to find a market for a fresh quality from a new origin."

The latter firm mentioned that Colonial honey was currently selling on the London market at prices ranging from 25s. to 40s. per cwt., according to quality. It will be observed that there is a difference of opinion with regard to the flavour of the honey, but it may be pointed out that the taste is undoubtedly such as would not appeal to the ordinary consumer in this country.

439 263 *Remarks.*—From the trade reports quoted above it will be seen that the possibility of disposing of this honey in the United Kingdom is very doubtful, in view of the large supplies of ordinary honey of good quality available on the market. Furthermore, it is probable that such dextro-rotatory honey would be regarded with suspicion, whilst its unattractive flavour and odour would be further obstacles to its sale.

Livestock.

556 ● 231 The wealth of the Beduins lies principally in their livestock, consisting of camels, donkeys, cattle, sheep, goats and poultry. Camels and donkeys are reared for transport purposes. The selling of animals is a regular feature of the fairs which are held all over the country at the many shrines of saints. The Qu'aiti Government estimates the number of camels in the country at 20,000.

231 232 Sheep and goats are raised for milk and meat. Cattle, though not plentiful, are not uncommon. An outbreak of rinderpest had killed 60 head of cattle at Hajarein at the time of our visit, and this was considered a very heavy loss. Heald states a decoction of

[1] This is not ordinary honey originating in floral nectar, but is produced by the bee from secretions of leaves and sometimes from secretions deposited by insects.

1: Ingrams G-5 (1934-35)1936 MM2 Hadhramaut MM2

boiled radishes is given to cattle with " cattle plague ". Donkeys are said to be susceptible to a very fatal disease.

Both cattle and camels are used in ploughing, the former usually in pairs and the latter singly. For the working of the wells, camels, cattle, donkeys, men and women, all combine, frequently in mixed teams, the animals being generally given a bunch of fodder at the top of the incline each time they reach it. Camels are also employed in turning the machines for extracting the simsim oil. The fact that fodder and water become more scarce north of the main Wadi necessitates a greater use of camels and donkeys are few and far between. Donkeys are uncommon also in the Wadi Maseila, for there is a three-day stretch without water in the middle of the Wadi, and below Buzun the flow is not perennial. Sheep and goats, however, are to be found everywhere, seeking their pasture under the care of women or girls.

Heald in his report states that no attention is paid to selection during the breeding season—which is usually in the early summer. With the sheep, one lamb is generally the average—although higher up in the Hadhramaut, amongst better pasture, ewes give two lambs. The sheep in the Meifa valley had black fleeces with the curly fat tails, although smaller than the Egyptian sheep. The goats are also smaller than in Egypt and originally came from the Yemen.

It was particularly noticeable in the Wadi Maseila that the live-stock were very much smaller than those elsewhere. The cows are little larger than a normal-sized calf, and the sheep and goats are also smaller than those in Du'an or to the north. The cattle are similar in size to those of Soqotra. The breeds of goats and sheep appeared to vary considerably over the whole country, but a black-and-white variety was the most common. His Highness the Qu'aiti Sultan has a few horses, both for riding and carriage work, and I saw one at Meshhed. There are probably not a dozen in the whole country.

Minor agricultural products.

Dates in the Hadhramaut are merely a hobby, and the entire local crop is consumed fresh during a season of two months, June and July. It may be recorded that a single date-tree in the Du'an valley sells from 400 to 1,000 dollars, many times its economic price. Dates form a staple article of diet and are therefore imported in large quantities.

The principal grain and other food crops are millet—*dirra* (great millet, *Sorghum vulgar*), *dukhn* (bullrush millet, *Pennisetum typhoideum*) and *kaneb* or *msebeli* (Italian millet, *Setana italica*); lucerne; *jil jil* (sesame, not eaten by donkeys); *dijar* (a kind of bean); wheat (not eaten by donkeys or goats); and a little maize. The stalks are generically known as *qusab*, and the grain as *ta'm*. Hashish or grass is also grown for animals. The principal garden crops are sweet potatoes, onions, garlic, pumpkins, carrots, egg

137 *Rakh* (*Salvadora persica* L.) is a very popular fodder with camels
314 and is found in abundance in the Wadi Maseila; it is also fairly
246 common round Du'an but practically non-existent to the north of Shibam. Goats do not eat it. It also provides the Beduins with their favourite toothsticks.

Khuweira, a small plant (*Cassia obovata* Coll.), is very popular with both camels and goats. There are of course many other plants on which they graze.

Manufacturing Industries.

496 Minor Industries include the extraction of simsim oil with camel
262 mills. In Mukalla there is a large oil factory with 31 compart-
249 ments in each of which a camel turns the usual primitive wooden machinery for expressing the oil from sesame seed. The oil extracted by this primitive process is much more popular for food that that extracted by modern machinery. It is considered much
[231] sweeter. The residue forms a cake which is fed to camels.

339 There are kilns for lime-burning immediately to the east of
438 Mukalla and in many other places. In particular most excellent
353 lime is made in Seiyun and Tarim. This is applied as a plaster to the interiors of the houses and polished with smooth flints till it resembles marble.

28 Hides from the interior are tanned in Mukalla but none is exported. At Gheil ba Wazir I saw a leather-worker using Mukalla-tanned skins. Skins are also tanned in Shibam. The dyeing of cloth, weaving, and mat-making are other minor industries. Shihr in particular is well known for its beautiful
323 weaving. There are potteries in many places, and I saw the process
346 in Gheil ba Wazir. There are also good workers in silver at Gheil ba Wazir, Shihr and Mukalla.

Fisheries.

228 The manufacture of fish fodder and manure and the preparation
251 of dried fish is a large industry of the coastal area. From an
262 export point of view, fish products come third in importance. They
231 are:—

438 *Sifa* (fish oil). Not much of this is made in either Mukalla or Shihr. The bulk is imported from the Mahri coast.

Wazīf (dried *'aid* and other small fish). A great quantity of this is prepared in Mukalla and still more in Shihr. The sea is alive with these small fish, the catching and preparing of which gives work to many hundreds of fishermen. In both Mukalla and Shihr there are godowns for these fish which are stored before being taken to the interior for manure, camel fodder, or human consumption. The very small *'aid* fish are used for manure only, but the larger ones are eaten uncooked

619 given three different accounts of their truces with other tribes. My first informant told me that those in force were with the 'Awāmir 721 for two years, of which three months had passed (this was on 578 3rd November 1934), with the Murra for six years, five months passed; the Rawashid four years, one year passed; Manāhil two years, five months passed; and Hamumi two years, seven months passed. The Mahra had declined to make a truce with them.

My second informant told me on 15th November 1934, that between the Hamumi and the Sei'ar six months' truce remained, between the Manāhil and the Sei'ar one year, and between the Mahra and the Sei'ar six months. The 'Awābitha living in Wadi 'Adam and Wadi al 'Ain were not on terms with the Sei'ar.

The third and probably better account is that given me by Tanaf bin Seheil bin Rumeidan's son and son-in-law on 1st December 1934. With the 'Awāmir, they said, there was a year's truce of which four months were left, with the Kathīri a year, and one month left, with the Hamumi a year, and two months left, with the Murra, Rawashid, Manāhil, and Yām there were truces for a year of which eleven months were left.

It is stated that the Sei'ars would join the Kathīri if there was trouble with the Qu'aiti, though the latter has a " B " agreement with them.

• 231 The wealth of the tribe consists of camels and sheep. Their camels are said to be superior in quality to those of the tribes in the south but inferior to those of the Mahras, and their number is estimated to be be about 7,000 or 8,000. Bertram Thomas says: " The tribes strongest in camels are the Murra, Manasir and 438 Manahil, also to some extent, the Se'ar. The Rashid have, of late years, decayed from the depredations of the Se'ar." They have little cultivation though they grow jowari after rain. They go to Shibam to sell *saf* leaves for making mats, *'elb* trunks, and charcoal.

609 Bertram Thomas records the following description of them: 771 " The Se'ar, according to the Rashidis—perhaps a tainted source in view of their relationship—neither pray nor fast. And they mock a Rashidi visitor (in times of peace) who does so, though they swear by Allah and claim to believe in Him. 'They say, God is the Knower! that their ancestors saved the Prophet from the hands of the infidels who were intent on slaying him, and the Prophet granted to him and his heirs exemption from prayer observances. They say so! May God forgive them!' " We learned from the 582 Sei'ars that they will give their girls to prospective husbands on approval. If, after about two months' trial, a bridegroom is satisfied, he will marry the girl; otherwise she is returned to her parents.

622 The Seiyids 'Ali bin Zein, Hasan bin Salim al 'Attas, and [illegible]med 619 bin Hussein Hadun al 'Attas have influence over the Sei'ars.

[See pg 92 CATegory 1162 Analyst]

1: Ingrams G-5 (1934-35)1936 MM2 Hadhramaut MM2

A tribe allied to the Tamimi. The *mansab* is Zein bin Hasan Balfaqih. 619 631 101

MANAHIL.

Clan.	*Section.*	*Places.*	*Nos.*	*'Aqil.*
Beit Kasim ...	Beit Ghānim	An Neid	40	'Aidha bin Tanāf.
	Beit al Batīn	do.	60	do.
	Beit Rasī'a	do.	150	do.
	Beit al Hamādī	do.	28	do.
	Beit Nahāt	An Neid and As Sōm	80	do.
	Beit Barakāt	As Sōm and Fughma	30	do.
	Beit Nas'ūd	do.	15	do.
	Beit Nōkhat	—	50	do.
Beit Mu'ashini	Beit al Bāqlya	Sena and An Neid	100	Yeslam bin Salim.
	Beit Sālmīn	do. do.	50	do.
	Beit al Qūeinisa	do. do.	60	do.
	Tammān	do. do.	100	do.
	Hushhūsh	do. do.	300	do.
	Muzābbar	do. do.	100	do.
	'Atūmī	An Neid	100	do.
	—	do.	100	—
Al Bawāqī ...	Samāh ar Raqās	Near the coast	100	—
As Samāh ...	Samāh al Ghuthma	—	50	—
	Samāh Beit Khafr	At Al Masīla	180	—
	'Adūl	—	100	—
	—	—	250	—
Tha'īn and Beit Farād.	—	—	50	—
Beit Dahein ...	—	—	500	—
Beit Qumsit ...	—	—	—	—
Beni Sa'id ...	—	—	—	—
Beni Ujeil ...	—	Near Qabr Hud	—	
			2,593	

The Manahil are a strong nomad tribe occupying the country east and north of the Hamumi and up into the Rub'al Khali. The southern part of Reida and the country from Damakh to upper Hadhramaut belong to them, and they have a few small settlements east of Qasm. They have an " A '* agreement with the Qu'aiti.

They breed camels extensively like their neighbours in the south-east, the Mahras, both for sale and for hire. Their camels are said to be finer and stronger than those of the Sei'ar, and the average price is estimated at about 200 rupees a camel. Female camels are seldom sold and are used both for breeding and riding. Women do not milk camels among the Manahil. 431 435 [563]

The tribe are said to raid as far as the Central Nejd and sometimes to the outskirts of Kuweit, passing the sandy stretch by routes known only to themselves. Bertram Thomas speaks of them raiding the Mahras in the steppe. We found that when passing through Mahra territory they declare themselves Tamimis. Bertram Thomas also says that " Bin Tannaf is the hereditary title of the 619 721

*See page 92, category 116 - - Analyst]

2:Ingrams G-5 (1934-35)1945 MM2 Hadhramaut MM2

Hurricane fighter and a mobile canteen for blitzed areas in England. The women of Mukalla have made bandages for the Red Cross in Egypt regularly since 1942.

That is a brief comparison between the Qu'aiti State in 1936 and in 1944: and progress has been made in other ways too. In case the picture seems too favourable, it should be remembered that the famine, due to the loss of over £600,000 a year in remittances from Singapore and Java, seven years' drought, the difficulty of getting food and its high price, the loss of 50 per cent of the working camels, and the difficulties of shipping, has had a very grave effect on the country, but has on the whole hit the interior rather than the coast. His Majesty's Government came to the rescue by voting over £300,000 for famine relief, and by providing air transport for grain, but in dealing with the progress of the Qu'aiti State it is right to record that the Government and the merchants have done their best, and the 1944 estimates included about three lakhs of rupees for famine relief, both by direct grants and by the provision of public works. A voluntary cess by merchants on their imports, the contribution by Government servants of 1 per cent of their salaries, and other charitable efforts raised a fair amount more; and soup kitchens, infirmaries and so on were provided at the coast for refugees from the interior.

Nature of the People and Country

Before describing the methods used in building up the Qu'aiti administration, something must be said about the nature of the people and their country to explain why unusual methods were required. The Hadhramaut is in many ways different from the rest of Arabia, from which it is for the most part separated by desert on all sides, but since it has a seaboard its people have always been able to find a living across the sea. They have had to do this because most of the 70,000 odd square miles of the country is irreclaimable desert and it is unlikely that it could ever support more than a quarter of the population. In other lands they have come to know Western rule but for the most part it has had few attractions for them. They generally find the trammels of an ordered life irksome, and throw them aside as happily as they drop their tarbushes and tussore suits for a waist cloth and indigo when they come back.

The nature of the country provides an explanation of the nature of the people. The vast and barren areas of mountain and jol have bred in the bedouin a deep sense of freedom and an unwillingness to yield it to anyone, for it is all he possesses. In the deep valleys of the hinterland the horizon is bounded by walls a thousand feet high and this has bred in the people an exclusiveness which it would be hard to find elsewhere. In the towns and villages of these valleys a most particular form of religion has grown up. There is none of the free brotherhood of Islam, but a system of classes of seiyids, of settled tribesmen with few of the virtues of the desert bedouin, of money-lending immigrant Yafa'i tribesmen from the west, of descendants of African slaves, of merchant townsmen, and of hard working

7: Stuhler-Raemaekers T-8 (1950-51) 1953 MMF Hadhramaut MM

361 a mound, is seven storeys and rises above the rest, the whole, like all
342 others, built in mud bricks.

In the centre, the space that is left, lie huddled the one-storeyed shops of the suq and the many-storeyed flat houses of the poor. Shibam seemed the only town where houses were occupied in flats. Elsewhere I saw almost exclusively one-family houses even if the family had many groups within it.

342 All houses in Hadhramaut have a strong inward slant from bottom to
333 top, which gives them a look of strength mingled with grace. There are no basements and barely foundations, but the ground floor is an almost solid base, so thick are the walls that taper towards the top. They may be almost 3 feet thick at the base for a tall castle, and a foot at the top.

In Shibam, the houses forming a solid rampart wall have windows at the two ends only, and a small light-well to light the stairs in the centre of the deep building. The ground floor usually contains granaries and stores. The straight flights of the stairs rise between thick walls with a very heavy
342 central block. On the first floor the Shibam citizen keeps his goats and
231 rabbits in the outside rooms, while the centre is occupied by more stores. About the second floor begin the living quarters—that is, the office and rooms of the men, stores in the centre again, and often with kitchen,
342 washroom, and lavatory. These washrooms and lavatories are systemati-
336 cally built over a central shaft, though water is mostly allowed to run from a gutter into the centre of the street. But there are "back" streets for the
342 sanitation and "front" streets for doors. About the third floor the private quarters begin. They would be men's living quarters, with the ladies on the floor above, the fourth, with kitchen and washrooms again; right on top, often little private quarters for the owner of the house where he may enjoy most fresh air. Each floor has a double set of windows, a large one down to the floor and a small square one for ventilation above, up against the ceiling, so that there are continual draughts running through the top of the room. Practically all rooms have windows on two sides, and with this and the thick walls and the smooth plaster they remain pleasantly cool.

342 The lower floors are usually the loftiest; even the ground floor store
353 rooms are up to 12 and 13 feet high. The house often has two entrances—
531 a large door for the men and a little one for the ladies, with separate stairs in the larger houses, even in Shibam where land is scarce. The façades are in rough mud brick, a uniform brown colour with a white plaster smooth base and white ornaments round windows and parapet, getting richer towards the top of the house, which is the best part of it.

Their plasterwork is one of their great arts. It is extraordinarily hard. To obtain this it is presumed to be mixed with date juice. When polished with a piece of flint and rubbed with a cloth for hours it acquires a lustre that makes it shine like marble. This is chiefly done inside the main rooms and in the washrooms and stairs. Outside it is only polished at the base, for water to run off. The ornamentation of the upper storeys is left
342 rough white. But as people's wealth increased they have abandoned this
531 form of very characteristic decoration, which divided the tall buildings in broad brown bands alternating with narrow white bands at window level.

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

000 of the city. Before the gate is the Wādī Seded, where the sea
484 has penetrated far inland and formed an inlet. Here on the
361 beach the caravans camp as they travel to and from the
231 interior. Hundreds of camels are kneeling in great circles,
492 eating the food that lies in the centre. Other camels are being bathed and scrubbed down with sea-water, while still others are protesting with gurgling snarls against the treatment of some skin trouble or of big open wounds. There are donkeys here and there amongst them. Bedouins lie asleep wrapped
[264] about in their cloaks or sit round a small fire eating out of wooden bowls their porridge of crumbled bread mixed up with a little fat. Some are busy with the difficult work of loading: after the freights have been weighed by lifting and then
[372] divided, they are fastened on to the pack-saddles. Children are collecting into baskets the camel's dung which is of great value as fuel. The ground is swarming with the so-called camel-louse, which is really a sort of tick. The penetrating odour of the camels' urine and sweat hangs over this widespread, permanent bivouac.

487 We go inland along the bank of the Wādī Seded, which is
312 here filled with sea-water, so as to cross, by making a big bend, behind the 1800 feet high rocky ridge of Makalla. On the left of the road, only a few miles from Makalla, there are groves of palm, with the white summer quarters of the Vizier and of the Sultan. Here is a spring from which, by means of a thin, iron pipe lying on the ground, water is carried to Makalla to provide the town with drink.

361 Two hamlets, el-Baqrēn and Baqērēn, with some cultivated
578 fields, lie close to the frontier of the Sultanate of Makalla. There are two fortified towers on the road manned by soldiers, and not far beyond Baqērēn there stands a whitewashed piece of rock. Against the high wall of primary rock, rising up each side of the road, two white marks have been made to show even in the mountain region, where the land is at peace and where at war. No vendetta may be carried on nor ancient feuds settled by arms in or around the town.

grown banks; we saw it no more after we had passed the grotto in the rock-wall to the left, where it made its appearance. The vegetation, however, continued rich and varied, and we could see from the little springs at the foot of the rocky wall that there was still a great quantity of water. Great blocks of rock had fallen here into the wādī from the steep sloping walls. In some places these walls were completely hollowed out by wind and water, and only a crust remained.

From Lubēb Von Wissmann had begun to survey the route. Up to that point we were able to use the excellent map made by Little on his geological survey of the mountainous country of Makalla in 1919—'20.[1]

The valley now rises more rapidly, and it requires much patience and skill to lead the loaded camels and donkeys over the great blocks of rock. The mountain camel knows this sort of ground, passes neatly through the blocks, and as he steps aside and turns thinks of the load projecting on either side of his body. On a warning call from the leaders: "Take care left!" or "Look out right!" the animal goes cautiously a little further away from the place where its load is threatened.

At the end of the wādī, about two miles beyond Ḥōṭat el-Laṣb, there is a little plateau to which a short ascent leads us. There is a plantation of date-palms and *dhura*, which is still within the boundary of Ḥōṭat el-Laṣb. At the end of this small plateau lies the village of Lubēb. We leave it on our left and descend towards Wadī Ḥimem, which, again, is shut in by high walls of limestone. The farther we advance the narrower becomes this wādī. The camel path along the steep cliffs to the right is blocked here and there with boulders. Some miles after Lubēb, the now narrow rock ravine makes a bend. Here is a splendid spring with a drinking-trough of masonry for the animals. The place is named el-Ḥallāf. On account of the road survey we are compelled to camp as soon as darkness falls. Indeed it would be difficult to march further in this valley of boulders.

[1] O. H. Little, *The Geography and Geology of Makalla*, Cairo, 1925.

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

3. BIVOUAC LIFE.

We pitch our second camp by el-Ḥallāf although our Bedouins are not quite at ease in their minds as to its safety. Mautor, the leader, climbs up towards the almost perpendicular rock-wall on our right and sends a few others to climb the less steep wall on our left. They remain away for a long time, reconnoitring and examining.

Meanwhile, down below also every one is busy. The camels and donkeys are unloaded and led to the water-trough. Some of the Bedouins go out to search along the rock-walls for camel-fodder, cutting it up with their crooked *djambīyas*. They know exactly which shrubs are good for the beasts and which are not. They roll great bundles of green down the slopes, and before long the camels are kneeling in a circle with a supply in their midst. The donkeys are standing a little apart, tethered to shrubs or to points of rock, content to chew dreamily at their rations. Quarrelling among the animals will only begin a few hours hence, when provisions are exhausted. More than once shall we be startled out of our first sleep by stamping, braying, and the grunting of camels, and shall see the Bedouins running like black devils after the runaway brawlers, in order to prevent the animals from getting hurt.

We ourselves join in the hard work of getting the bivouac into order. With the help of Ṣālīḥ we drag in our camp-beds, chests of instruments, the box of cooking utensils, the camp table and chairs. We choose a suitable spot for the beds and put them up; we unpack the meteorological instruments, the chest with plant-presses; the bivouac lamps are lighted. Whilst Ṣālīḥ prepares a simple meal, we begin that part of our task which always calls for the greatest output of energy; the harvest of plants and flowers has been rich and the bag of plants is full and bulging. Hours pass before we have the flora lying between sheets of paper and firmly pressed in thick bundles between the pressing-boards. Then the contents of the

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

water is too far below the surface to serve for the regular irrigation of a plantation, the *nibq* can still live quite well, and even if there is no rain for some years it does not die. The fruit of the *nibq* is as large as a marble and has a stone of the size of a pea. The taste is sour-sweet and refreshing. The fruit can be dried and kept for a long time: it is then crushed fine, stone and all, and with the meal bread is baked or a sort of porridge made. This small fruit is the chief food supply of many in times of drought, and in times of scarcity many Bedouins live on *nibq* and milk and do not look ill on the diet. The shepherdesses carry the *nibqs* with them in small oval, prettily woven baskets.

The wood of the *nibq* tree is reddish-brown and hard, and is used for beams and supporting pillars in the big, many-storied, mud houses of the rich. The branches, thick with thorns, are used in the date plantations when the bunches of dates approach ripeness. They are bound in a wreath round the trunk just below the clusters of fruit, to prevent the dates from being stolen. Finally the green leaves of the *nibq* are also useful: when, during a long drought, there is hardly any more food to be found for the sheep and goats one sees the agile shepherdesses, in spite of their flowing, black garments, clambering up to the top of the *nibq* tree and knocking off the leaves from the branches with long, thin sticks. The flock stands below the tree in expectation of the godsend of food to come. We have only a mild admiration for the *nibq* fruit: one must do much chewing for little nourishment and for little taste.

They also brought us from el-Ḥisī a few handfuls of the roasted larvae of white ants. The taste was not bad; Von Wissmann ate up a whole helping with the result that, shortly afterwards, he had a pain in his throat and could not utter a sound, a condition that lasted for about two hours.

El-Ḥisī lies about 4500 feet above sea-level, and the evenings are quite cold. While there, we examined the bundles of plants which we had already collected and pressed. Great

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

district called el-Qaṭn, now stands out clearly against the foot of the rock-wall. The ground grows flat; the loam emerges freed from the layer of sand; rectangular patches point to occasional cultivation of the land during a favourable rainy season. There is a low-growing plant in the fields; it is a weed that is used as fodder for cattle.

Furṭ el-Qaṭn is only a hamlet, but a continuous series of palm-groves and fields of *dhura*, lucerne and sesame stretches from here until beyond Ḥōṭat el-Qaṭn, where the Sultan is resident. All actual cultivation is due to irrigation by means of wells. A broad strip of ground which is cultivated when there is sufficient rainfall stretches outside the date plantations. The level of the subsoil water is nearer to the surface here, as the wādī descends more rapidly than does the subterranean river. Beyond Terīm it comes above the surface for considerable stretches.

The wells and the tracks along which beasts and men go to draw up water are mostly situated in the shade of the date-palms. Where shadow is lacking, long strips of jute or other material sewn together are stretched over the track to make shade for men and animals. Donkeys and cattle are used for haulage, but mostly with the help of man's labour. The poor, hard-working and little honoured caste of the *ḍaᶜfā* (the peasants) [1] have as their chief occupation this irrigation work [2], which really goes on almost all the year round. The *ḍaᶜīf* walks backwards beside his cow or donkey, pushing at the hauling rope with the back of his thighs, in which way his weight has most effect. By the time they reach the end of the hauling track, the bag full of water, which is generally leaking considerably, has appeared at the rim of the well. The *sānī* draws the bag of water (*gharb*) to the rim by a thin rope,

[1] *Ḍaᶜfā* is the plural of *ḍaᶜīf* (ضعيف), which name is given in Ḥaḍramaut to the agricultural labourer class, cf. C. Snouck Hurgronje, *Verspreide Geschriften*, iii, p. 220 and v. p. 406.

[2] Here called *senāwa* (سناوة); the man who works it is the *sānī*. Cf. C. Snouck Hurgronje, *loc. cit.*

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

where it empties itself into a little mud basin, out of which the irrigation conduits lead to the cultivated ground. Work at the well occupies the whole family: father and son guide the animals and walk with them in hauling ropes and mother and daughters relieve them at this work. Two old dames sit in the shade making ready food for the beasts, which consists of dry straw bound round with fresh green into bundles, that are pushed into the animals' mouths whenever they arrive at the top or bottom. I saw women continuing their mat-plaiting whilst, at the same time, walking backwards in the traces down the slope of the track. The work is very tiring: pulling whilst going down hill and then climbing up again. The path, on which their walk begins at sunrise, is as long as the well is deep.

2. TO THE SULṬAN'S PALACE IN EL-QAṬN.

One sees the tall buildings of Ḥōṭat el-Qaṭn even from afar rising above its walls and the tops of the date-palms. The place is not large and is situated, like the townlets in Wādī Dō'an, stretched out and closed in between date-groves and the rock-barrier. It is surrounded by a mud wall kept in good repair. At the gate of the town we see our caravan; it is on its way to Shibām with the baggage and is resting here during the heat of the day. Although we are informed that the Sultan is staying in Shibām, we wish to pay a visit of courtesy to his deputy at the palace; possibly he may allow us to make a survey and to photograph from the roof of this very high building. The palace has just been partially renovated and, consequently, has not yet the gay outside decoration of whitewash. A broad staircase leads to a large, finely carved door. There we give our letter of introduction to the guard and after some time we are invited to follow him upstairs. By way of broad passages and endless stairs, both plastered with dried mud, we arrive at the reception-room, which has just been finished. Much of the beautiful old Arabian style is spoiled here by

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

To expedite matters we take the risk of starting off in advance on our donkeys. As we pass we see at a great distance some villages almost entirely in ruins, and also castles of the type of that of Qasam. There is water here and there in the deep and by no means wide *sēl*-bed. It appeared soon after we left ʿĒnāt and it increased further towards the east. This water is pretty bitter, though in some places it is sweet enough to be drinkable. The inhabitants prefer the well-water, which is better, but the pack-animals drink the water of the river. It is running and every now and then disappears to continue its course underground. Beyond Qasam the wādī is still wide and the soil consists of a thick layer of loess. The broad path winds between bushes of fresh green *rāk* covered with bluish-red berries, which are being gathered here and there by children. When we heard that they were eatable we tasted them; they have the taste of cress, sweet but hot as pepper. They have a strong laxative action as have the leaves for which camels and donkeys have a liking. Where *rāk* grows the animals are given nothing else, although they get diarrhoea from it. In journeying through *rāk* districts one sees the rumps of the camels smeared with greenish pap, whilst their leaders and riders are not free from splashes sprinkled round by their animals' tails. At these times a very unpleasant smell clings night and day to the caravan.

The further we go, the more barren becomes the bed of the wādī, which is still very wide. The layer of loam is covered with sand; mounds of loam rise up out of it, some of them covered with vegetation. Shortly before sunset we enter a region of many and magnificent ruins. It is too late to examine them closely, and we pass the smaller mounds by so as to go on to the central ruin of el-ʿUrr. This is visible when we are still far from it. Massive remains of walls, towering high against the evening sky, stand on a lonely mass of rock, right in the midst of the wādī level. The rocky hill extends some distance and is very steep, and it is difficult to clamber over the rubble of the building, which has

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

621 We had not received favourable reports of Wādī ʿAmd. The el-Aṭṭās family, nevertheless, maintained the contrary; it is their wādī and the Djaʿdī Bedouins who inhabit it are allied with them and are, in a certain sense, under their control, but it is hard to discover how far this control goes. We got the impression that the wādī was very much armed and ready for war. The landscape is barren and, at first, monotonous; the *sēl*-bed is broad and filled with bluish-white, small boulders. Conditions must have been much better in the old days, for the numerous ruins suggest a dense population.

361 231 243 It is long after sunset before we reach Nukhr, where the el-ʿAṭṭās family own a house. The place consists of a few huts and a half tumble-down mud house, in which a room has been prepared for us. It is too warm to spend the night indoors, but the staircase leading to the roof has collapsed. In the middle of the hamlet there is a storehouse for fodder, half below and half above the ground. Its roof is about three feet above the ground and has a parapet about one and a half feet high. The basin thus formed is smoothly plastered with mud, and the grain is thrashed in it after harvesting. It makes a hard but safe sleeping place.

172 312 241 On the following day, June 10th, we set off again southwestwards. At first the wādī is very monotonous and barren and the *sēl*-bed widens considerably. After two hours' riding Wādī ʿAmd makes a bend towards the south and then very soon one comes across date plantations. There are an increasing number of ruins of what, presumably, were defence works, situated on hill-tops. The palm plantations have suffered much from the drought in recent years, as for two years there was neither rain nor *sēl* of any considerable quantity. The subsoil water is far from the surface and wells are 300 to 450 feet in depth so that they are not used for purposes of irrigation but only for supplying drinking-water. Groups of men hoist up the water, singing monotonously the while.

241 312 Further southwards the plantations increase and form an unbroken girdle between the broad, wild *sēl*-bed and the wes-

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

place consists of a few small houses and sheds, built of stone and mud and with flat mud roofs. There are still some green leaves left on the few *nibq* trees growing between the cultivated acres, and these, to the last leaf, are gathered for the goats. The latter, with outstretched necks, stand watching the movements of a shepherdess who, armed with a long stick, was climbing about at the top of the tree to knock off the foliage. Only one family lived in the hamlet; an empty house was offered to us as a lodging. No eggs, no flour, no rice, no milk were to be bought here, the only thing obtainable being large quantities of the dried fruit of the *nibq* tree, which help one to stave off starvation. These are ground to powder and then made into porridge or bread. When eaten raw only the thin rind of dried pulp is edible; the seed, which is as hard as stone, is then thrown away. The *nibq* menu is eked out occasionally with a little goat's milk or camel's milk, and when the date harvest is gathered in Wādī Dō'an a portion of it will find its way to the Deyyin Bedouins, who, in return, protect the inhabitants of the wādī against enemies. All the same, a long hard training is necessary in order to live on such a minimum of food as these Bedouins seem able to do in times of drought. The few shepherds and shepherdesses whom we met later in similar depressions of the ground and in wādīs where some bushes and trees were growing had as their only food-supply small round woven baskets filled with dried *nibq* fruit.

Thanks to the ready tongue of our *siyāra*, Sayyid el-'Ederūs, as well as to the respect accorded to all sayyids among these simple folk, we succeeded in photographing the female inhabitants of the hamlet consisting of a mother, two daughters and a friend.

The women go unveiled and are much more free and open in their manner than in Wādī 'Amd. They seem to feel quite safe, for we met them far away from their homes, alone with their flocks or on their way to some business in another hamlet hours distant. Maryam, encouraged by her mother, even yield-

24:Meulen and Wissmann T-3 (1931)1932 MM2 Hadhramaut MM2

He cannot resist the wishes of his guests and very soon there is again a crowd of inquisitive people in the sweltering upper room, staring at us and hampering us with questions and loud conversation.

2. PROSE AND POETRY IN WĀDĪ ḤADJR.

We manage, by exercising much insistence, to get off at four o'clock that afternoon. There are two roads to Makalla: one goes direct through the mountains, the other makes a great circuit by following the main wādī as far as the sea and then going up the coast to Makalla. The mountain route is the shortest but the hardest; we are told that it is *too* hard for our camels, who are not strong. Moreover, it would be unsafe for our little company in the mountains, in the absence of an armed escort. Considering that even Little, with a big military escort, was attacked in this country — a sayyid who was acting as his guide was killed in an engagement — we accepted the assertions of the people in Ṣidāra as reasonable and therefore chose the detour by way of the wādī, which however has a bad name for malaria. Little had to contend much with this illness: his escort had to be almost entirely renewed after a short sojourn in Wādī Ḥadjr. We tried to avoid risk by sleeping away from human habitation and, as far as possible, on high-lying, dry ground.

The caravan was under the leadership of a strong, slight Arab, of the name of Dhēb. He had spent his youth as hostage in the Sultan's palace at Makalla. This shows that Ṣidāra some twenty years ago was still a part of the Qeᶜēṭī territory, but that the Sultan considered it necessary to strengthen his hold on the country by bringing up the sons of the leading families in his palace. It was to this circumstance that Dhēb owed his education — for this country a very good one — and he was much more cultivated than the other young men of Ṣidāra. In spite of his long hair, his face was handsomer and gentler in expression than is usually the case here. We also had

with us ᶜAlī, an old and rather sour man, who was proud of being able to read and who faithfully spelt out the names of the places that we passed. When we had gone a little way he asked if we would buy a pair of spectacles for him at the *sūq*, the bazaar, of the Bandar (the seaport town, *i. e.* Makalla) so that he could better read the Koran. Our third man, ᶜAbdallāh, is a very ordinary sort of Bedouin; he speaks little, but startles us time and again on the march by his monotonously ugly and melancholy Bedouin singsong: *"Yā dānā . . . ā . . . ā . . . āl"* etc. Finally there is little Muḥammad, an indefatigable boy of twelve, who is now having his first experience of a journey of this kind and who has never yet seen either the sea or a town. Besides these, a weaver from Makalla has joined our caravan with a baggage camel and two boys. We ourselves have an enormous camel that we call the *fīl* or elephant, a female camel for the milk supply, and a young and slender animal making its first trip.

The caravan leaders here wear a strange kind of sandals. Broad strips of leather cover not only the whole upper part of the foot but extend out beyond the sole, which makes a rustling noise in walking. It is meant to keep off snakes and scorpions, especially on night journeys. Because of the richer vegetation and greater moisture, these creatures seem to be more prevalent here than in the arid interior, where sandals are chiefly worn in the afternoon to protect the feet from the heat of the ground.

Nearly all the men of the village accompany us through the palm-gardens to the river; we wade through the warm water and then come to more date-groves. After that there are *dhura* fields, which finally give place to shrubs, grasses and acacia trees. We make a short cut where the river bends; the fringe of palms continues uninterruptedly beside the water.

Dhēb declares himself ready for *takalluf*, *i. e.* for doing his utmost, so it is perhaps possible that we shall reach Makalla in six days. As soon as we enter the region mapped out by Little, Von Wissmann is able to give up his detailed survey

5:Gt. Brit. . Colonial Office G-3 (1947) 1949 MM1 Aden
Hadhramaut MMR

Animal Husbandry	*Western Aden Protectorate*	*Eastern Aden Protectorate*
Camels	30,000	50,000
Cattle	45,000	10,000
Goats	500,000	420,000
Sheep	150,000	80,000

Soil Conservation

In Southern Arabia the rainfall is in general too low for an efficient natural vegetation to cover the slopes and act as a check to run-off. Only by the efficient use of all sources of water, particularly flood water, can cultivation continue. In these circumstances an effective system of soil and water conservation forms an integral part of traditional cultivation, and although there is a constant movement of the soil from the slopes to the flats, efficient run-off control results in comparatively little silt-laden water reaching the sea. Soil erosion occurs where flood waters are not controlled and in some areas overstocking has led to soil degradation.

The agricultural staff is at present very small but steps have been taken to improve the position.

The general view is that efforts to conserve soil should be directed to the maintenance and extension of flood-control systems. The districts of Abyan, Beihan and Ahwar and the Hadhramaut, which depend largely on a system of flood-water irrigation, have been selected as areas for improvement. In past years flood waters have gone to waste owing to local insecurity and poverty which resulted in the neglect of the deflectors and canals required for flood control. During the past few seasons active measures have been taken to remedy this state of affairs following an improvement in political conditions and by a system of advances to cultivators willing to undertake the restoration of their irrigation systems. Such flood-water control works must naturally go hand in hand with increased production measures. Special attention has been paid to Abyan where a Development Scheme is in operation.

On the Audhali plateau a system of advances to farmers who are willing to improve or sink wells or recondition terraces proved successful. Particular interest has been stimulated in areas where political difficulties have in the past caused neglect of such opportunities for the improvement of the natural resources.

Wind erosion is a factor of importance in the alluvial areas such as on the coastal plain where it affects areas which have been withheld from cultivation for long periods. In such situations dessication of the soil is followed by wind erosion. The remedy is to irrigate such soils and bring them back into cultivation

Study of Agricultural Techniques

(*a*) *Soils* are mainly alluvial. In the Eastern Protectorate they are almost everywhere derived from limestone. In the Western Protectorate soils in high-altitude districts are derived from the granite and elsewhere from the limestone series or from volcanic rock. Soils in irrigated areas

6:Gt. Brit. . Colonial Office G-3 (1948) 1950 MM1 Aden
Hadhramaut MM1

the north-east Yemen Plateau, but local rain was sufficient and caused damage to the wheat and barley crops when at the harvest stage.

In the districts west of the Bana *kharif* conditions in Lahej and Subeihi country were good, but in the highland districts rainfall was insufficient for crop production over most of the year. In Abyan which is watered by the Bana and the Hassan rivers where they enter the coastal plain, a weak flood season was experienced, but this resulted in effective flood control, and on the balance, in satisfactory crops. East of the Bana and the Abyan district, conditions in the *kharif* were bad. Lack of rain in most districts reduced crop production based on a rain and flood irrigation system to nothing. Fodder supplies needed for sustaining the animals working the water lifts in permanently irrigated areas were reduced, and lowered production from what should normally be a reliable source.

Livestock suffered and were reduced in numbers as a result of poor flood conditions caused by insufficient rain. A secondary factor which seriously affected camel owners and transporters in the Eastern Protectorate was a dearth of the sardines which are usually caught in great quantities on the Hadhramaut coast and used in a dry state as fodder for livestock.

Crop Production

	Acres	*Tons*
Western Aden Protectorate		
Millet—sorghum	40,000	8,000
Bulrush millet and other small millets	7,500	1,125
Wheat	1,500	750
Barley	4,500	3,000
Sesame	5,500	550
Eastern Aden Protectorate		
Millet—sorghum	5,000	1,700
Bulrush millet and other small millets	1,000	200
Wheat and barley	3,500	2,500
Date palms	10,000	4,500

Pests and Diseases

No report of locust activity was received during the year.

Rust is probably the most important plant disease in the Aden Protectorate. In 1948, little damage was recorded from this disease.

Animal Health

No rinderpest was recorded during the year. Goat virus was imported from Kenya and used for the immunisation of cattle in Abyan. Horse-sickness vaccine was used in Beihan, Abyan and Lahej.

	Western Aden Protectorate	*Eastern Aden Protectorate*
Camels	30,000	45,000
Cattle	50,000	8,000
Goats	400,000	320,000
Sheep	110,000	50,000

7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden
Hadhramaut mm2

EXPORTS

		Quantity		Value Rs.
Tobacco, native	cwt.	22,341		23,59,700
Honey, in combs	lb.	15,348		61,390
Honey, cleaned	„	2,160		7,560
Dates, local	cwt.	299		7,530
Lime	„	8,643		43,220
Sheep and Goat skins	scores	326		1,140
Lemons, dried	cwt.	651		37,070
Fish oil	gal.	2,924		7,310
Miscellaneous				2,48,920
TOTAL VALUE OF EXPORTS			Rs.	27,73,840

Chapter 7; Production

AGRICULTURE

Principal Products

Western Aden Protectorate

	Acres	Tons
Sorghum Millet	62,000	12,400
Bullrush Millet and other small Millets	9,500	1,900
Wheat	1,500	750 *a.*
Barley	4,500	3,000 *a.*
Sesame	8,500	850

Eastern Aden Protectorate

Sorghum Millet	20,000	4,000
Bullrush Millet and other small Millets	2,000	400
Wheat	2,000	1,000 *a.*
Date palms	10,000	3,500

(*a*)—Crops sown in previous year, harvested in 1949.

Estimate of the Numbers of Principal Classes of Livestock

Western Aden Protectorate		*Eastern Aden Protectorate*	
Camels	30,000	Camels	40,000
Cattle	50,000	Cattle	7,000
Goats	400,000	Goats	250,000
Sheep	100,000	Sheep	30,000
Donkeys	3,500	Donkeys	3,000

The year 1949 opened with drought conditions in almost all districts, but early Saif rains, followed by good late Saif and good Kharif rains, and an exceptional fall of rain in the early part of the winter combined

7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden
Hadhramaut mm2

to the Hadhramaut. This winter rainfall enormously improved the range conditions over the mountain areas of the Protectorate and produced exceptionally good pasturage for the desert tribes in the north-east. 132

Large acreages of winter cereals and fodder crops were grown. The year finished with the whole of the Protectorate in good condition. 241

Livestock started the year in many areas in a starved condition, and in the east with their numbers greatly reduced. At the end of 1949 their condition was restored, but numbers, particularly of small stock, were low. 231

Plant Pests and Diseases

As a result of the favourable rains and the continuance of sorghum cultivation through the Saif season, to the flood crop of the Kharif, and into the lift irrigated crops planted in autumn, 1949, there was a serious increase in the stalk borer population, and an estimated loss of up to 50 per cent of the crop resulted in the Hadhramaut lift irrigated areas. 731 242

Animal Health

No outbreak of rinderpest or other serious animal disease was recorded during 1949. 731

Market Conditions

With the devaluation of the pound the value of the Maria Theresa dollar rose nearly 30 per cent in relation to rupee currency. Produce prices remained high until autumn, 1949, when a sharp drop occurred in many districts following the good harvests. Sorghum grain on the Aden market averaged about £35 per ton throughout 1949. 435 455

Demonstration and Experiment

A field trial with X1730A cotton grown from Abyan raised seed was very successful in 1949; some 1,750 lbs. of seed cotton per acre was obtained from scattered plots totalling 82 acres which had received one watering only before planting. The crop was planted in the months of September and October, and grew rapidly. In some fields plants reached a height of over 6 feet and carried an enormous crop. No important pests or diseases were seen. 242

The crop was classified by the Chief Classifier of the Sudan Plantation Syndicate, who was flown over for the purpose; he placed about half the crop in grades 3 and 4, and the balance in grades 5 and 6, basing his classification on Sudan Gezira standard for L type cottons. The graded crop was sold to the Raw Cotton Commission.

Varieties of cane, introduced in small quantities from Mauritius in the previous season, were cut in September, 1949, and planted out in observation plots.

8:Gt. Brit., Colonial Office G-3 (1951-52)1954 MM1 Aden
Hadhramaut MM2

Facing p. 46 (c)

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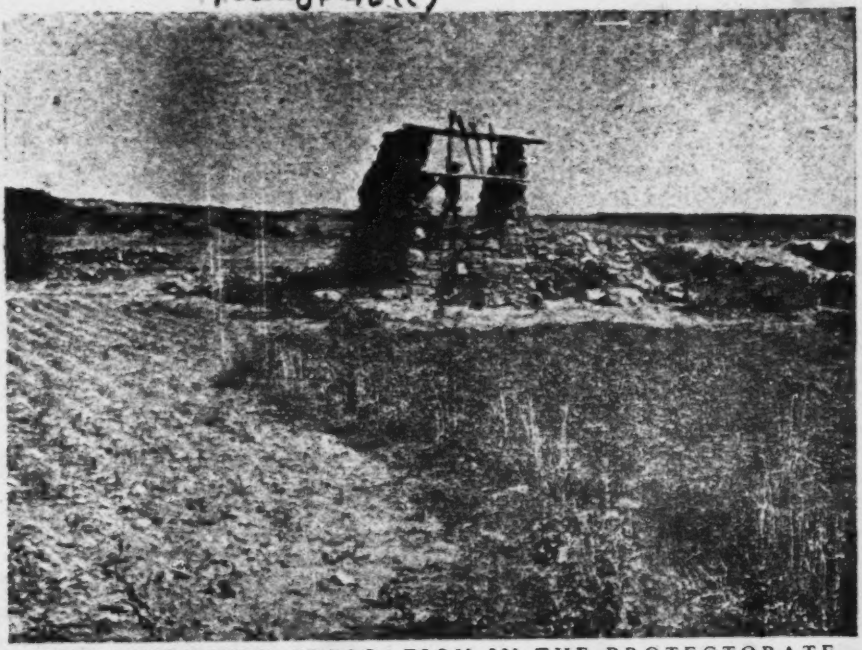

HAND-OPERATED IRRIGATION IN THE PROTECTORATE

[23]

ANIMAL-OPERATED IRRIGATION IN THE PROTECTORATE

8:Gt. Brit., Colonial Office G-3 (1951-52)1954 MM1 Aden
Hadhramaut MM2

Chapter 6 : Production

LAND UTILISATION AND TENURE

Utilisation of agricultural land

Land for crop production is prepared for irrigation farming by flow or by lift, and for dry farming, where there is a low rainfall and some runoff water, the land is terraced. The great bulk of the land in the Protectorates affords range conditions of light carrying capacity, particularly suited to camels, sheep and goats. 312 241 231

Land and water conservation and utilisation

All farming practices in the Aden Protectorates depend on a highly developed system of conservation of land and water. In the highest areas, land is terraced for crop production and runoff water is led to these terraced fields in order to augment the water provided by actual precipitation ; in the mid-altitude areas, mountain torrents are diverted to bunded land laboriously reclaimed and made along the valley sides ; below, where the river systems reach wider valley areas and plains, larger diversion works and miles of canal may be used to carry flood water to bunded lands. 312

This process of water spreading, which is carried on in the lowest lying parts of the coastal plain, results in abundant supplies of underground water. Lift irrigation is practised in many areas and is, of course, of the greatest importance to the more arid north-easterly districts of the Protectorate. At present only supplies drawn from open wells, tapping the "phreatic" zone of water, are used.

Utilisation of land and water is governed by varying systems of tribal and customary law. Where development schemes are now progressing, local authorities are being invited to modify such laws, where necessary, to meet the changing conditions. 423

Land Ownership

The policy, laws and regulations of each State vary but in general it may be said that the policy of the State is to reserve land ownership for the tribe and generally to tend to favour individual ownership as against State ownership. Land ownership is subject to tribal law and Mohammedan law.

Except for a small area in one district, land in the Protectorate is held by the indigenous inhabitants. The local State Governments are, in some cases, important owners of land.

Land is held in absolute ownership (Mulk), in trusts (Waqf), as dedicatory gifts (Nadr) and in a form of usufructuary tenure (Manh), with near to freehold rights granted in one or two areas to those who have rendered outstanding service to the State.

Payment of a fixed rent in money is only found in a very few specialised systems. Fixed payments in kind, found usually in areas where a high value is placed on land and water, are not general. The 427

8:Gt. Brit., Colonial Office G-3 (1951-52)1954 MM1 Aden
Hadhramaut MM2

ANIMAL HUSBANDRY

Estimate of Livestock in 1952

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	Western Protectorate	*Eastern Protectorate*
Camels . . .	35,000	45,000
Cattle	60,000	8,000
Goats	500,000	355,000
Sheep	150,000	50,000
Donkeys . . .	3,500	3,500

Most of the animals are kept by peasant farmers who depend on animal products for an important part of their diet. Away from the less settled areas pastoral, nomadic and semi-nomadic tribes own large numbers of livestock and depend on stock products for food and for sale and barter to obtain other requirements.

Towards the end of 1952 drought conditions affected the production and general condition of livestock. No serious animal disease was recorded during the year.

There is no separate Veterinary Department in the Protectorate but the Director of Agriculture undertakes preventive measures to control important diseases such as rinderpest and horse-sickness.

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A herd of Ongole (Nellore) cattle is maintained by the Abyan Board. It is proposed to test the productivity of this breed and the suitability of animals raised locally from the breed for draught purposes in Abyan.

FORESTRY

No true forest exists in the Protectorate. Trees and shrubs common to arid regions in this latitude are found, while a dense growth of Tamarisk and Salvadora is found as "corridor forest" on the sides of the larger flood courses. Acacia is the most important species at all altitudes ; a semi-cultivated species of great value for timber and for honey-gathering bees is the Elb (*Ziziphus spina christi*).

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A general dearth of forest products for timber, building materials and for browse for livestock is apparent. In many parts of the Protectorate, and particularly in areas close to Aden, the coastal towns of the Eastern Protectorate, and the Hadhramaut towns, destruction of vegetation for charcoal production and for fuel has devastated large areas. So far no satisfactory measures have been taken to regenerate such areas. Large amounts of capital and firm action by local Governments are needed for this.

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CO-OPERATION

The Beihan Farmers' Association, now in its fifth year, continued to benefit the Beihan district. This Association provides its members with seed stocks and grain supplies on credit. At the end of the year the assets were estimated at £14,850 and liabilities at £8,779.

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The Audhali-Kaur Farmers' Association has made moderate progress since its formation in 1950. It is primarily concerned with the organisation of vegetable production, transport and marketing for its members who farm with the aid of lift irrigation in the mid-altitude area of the "Audhali-Kaur".

30: Gt. Britain G-5 (ca. 1918) 1920 MJ1 Saudi Arabia
Hadhramaut MM2

plain. The town has an imposing mosque, that of Sīdi Mohammed, a fine piece of typical Arab architecture, with a handsome minaret and a spacious courtyard; it is capped by innumerable white pinnacles. There are broad tracts of cultivation above the wādi confluence, notably of indigo and cotton, the latter being a bush of small growth. Cotton fabrics are made and dyed for tribal shawls, turbans, &c. 361

Nisāb is the residence of the Naqīb or governor, who represents the Sultan and is responsible for the maintenance of order and the collection of the custom dues of this important inland caravan centre. The Sultan himself resides at **Medāq**, a few miles to the south-east, where he has a castellated house crowning a prominent hill.

2. **Wasat** (or Wāsit) is not a town in the ordinary sense of the word, but a series of small separate settlements strung out along Wādi Markhah, with a *sūq*, about 15 miles north-west of Nisāb. It is an important trading centre and is protected by forts.

3. **Markhah** is a large commercial town in the broad fertile wādi of the same name, with a main stronghold and minor towers that guard the outlying portions of the settlement. It is second to Nisāb in importance as a centre of the dyeing industry.

4. **Yeshbum,** or Yeshbum Sūq, stands on a low isolated hill on the right bank of the wādi of the same name, which sweeps boldly above and below the town in opposing curves forming a huge letter S. The town is walled, and is the market and nucleus of an extensive valley settlement. There is a small dyeing industry, and cotton, imported raw from Nisāb, is spun here. By far the most important and characteristic product of Yeshbum valley is its honey, which it exports all over Arabia, and even to Zanzibar and India. The bees collect the honey chiefly from the blossoms and honey-dew covered leaves of the *'elb*, or jujube-tree, for which the valley is famous. The fruit of this tree is the staple fruit of the valley, where it ripens in March and is dried and pounded, stone and all, for food. [231]

The chief settlement of the Lower 'Aulaqi is

5. **Ahwar,** the principal residence of the Sultan, which is said to have a pop. of 5,000, and lies about five miles from the coast up the Wādi Ahwar (Hūwar). The settlement consists of a straggling township or series of villages, adjoining the Sultan's castle. It is a backward place without industries, but stands in the centre of a large and well-watered tract of arable land; large numbers of bullocks are reared in the district.

iii. *Beida.* This Sultanate occupies the plateau country north

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Irrigation is almost entirely artificial; neither the rains nor the variable streams are in general adequate to this purpose, and watering of the soil is mainly carried on from wells. These may be sunk practically everywhere in the valleys. As in many other parts of Arabia, the water is drawn up in a leather hoist by animals, usually cows, attached to a cord which passes over a pulley supported on wooden struts; the water thus obtained is received in a large wooden trough whence it is spread over the land by means of little runnels.

Cattle-rearing is the principal occupation of the Bedouins. Camels and donkeys are reared for transport purposes; sheep for killing and for milk; cows only for milk and irrigation work; oxen exclusively for ploughing. Horses are very rare and are considered as animals *de luxe*. Bees are numerous, and much honey is produced. The wild animals most largely found are the rabbit, gazelle, wild goat, jerboa, hyena, hedgehog, a large species of lizard (permitted as food to Mussulmans), and the panther, wolf, and monkey (not permitted as food).

Trade and Commerce

The only ports of importance commercially are Makalla (see p. 232), Shiheir (see p. 232), and Seihūt (see p. 230), and even at these the trade carried on is purely coastal, with the near coast of Africa, the Red Sea, the Persian Gulf and the southern coast of Arabia, and above all with Aden and Muscat. Trade by caravan is carried on from these ports with the whole of the interior of the Hadhramaut and with the southern Arabian littoral as far as Yemen on the west and Oman on the east. Burūm (see p. 233) and Qusei'ir are small fishing villages.

There are no made roads; the routes follow the courses of the wādis or natural paths. Transport by wheeled vehicles is impossible everywhere; all is carried on by camels or donkeys. It is, however, relatively cheap; e. g. a camel from Shiheir or Makalla to Seyyūn costs only 5 florins in the good season; in summer, when forage is scarce, it is higher, but never above 10 florins.

The chief exports are dates, stuffs dyed with indigo, a superior quality of wheat, and honey; smaller exports are shells and fins of fish, the latter exported to India and China. Imports: wheat, butter, coco-nuts, coffee, sugar, rice, cotton and cotton stuffs, pottery, bars of iron and worked iron, sesame oil, petroleum, and tin-ware.